

# Morbidity-mortality at 30 days of Nissen sleeve: a french national multicenter study

**Pr Claire Blanchard-CHU Nantes**



# Conflicts of interest

- None

# Sleeve gastrectomy and reflux



TABLE 2. Summary of All Study Outcomes ( $P < 0.0001$  for All Studies)

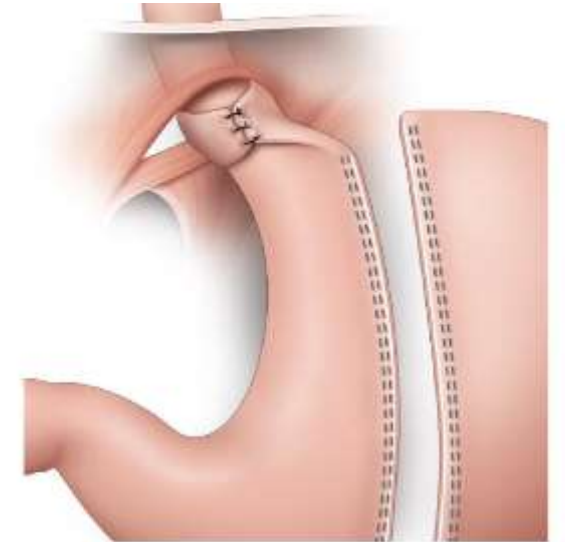
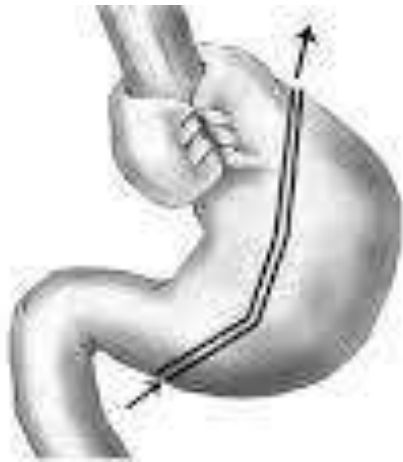
Outcome	All Studies	Long Term ( $\geq 24$ mo)
Overall increase in reported reflux	19%	19%
De novo reflux	23%	20%
Esophagitis found	30%	28%
Barrett's esophagus	6%	8%
Postoperative hiatus hernia rate	41%	—
PPI use (postoperative)	38%	36%
Revision to RYGB for severe reflux	4%	4%
BMI change	$-13.29 \text{ kg/m}^2$	$-12.56 \text{ kg/m}^2$
EWL	62%	61%
Diabetic resolution	66%	66%
GERD 2018 Lyon Consensus criteria (borderline)	37%	—
GERD 2018 Lyon Consensus criteria (conclusive)	8%	—

Yeung et al. Ann Surg 2019

# Contraindications to gastric bypass surgery

- Multi-operated patient in supra mesocolic
- Complex eventration
- Malabsorption of treatments
- Biermer's disease
- At the time of the assessment, esophagitis grade C, D, EBO
- Osteoporosis?

# INNOVATIONS: NISSEN- SLEEVE



Surgery for Obesity and Related Diseases 12 (2016) 1832–1837

Original article

Nissen Sleeve (N-Sleeve) operation: preliminary results of a pilot study

David Nocca, M.D., Ph.D.<sup>a,b</sup>, El Mehdi Skalli, M.D.<sup>a</sup>, Eric Boulay, M.D.<sup>a</sup>,  
Marius Nedelcu, M.D.<sup>a</sup>, Jean Michel Fabre, M.D., Ph.D.<sup>a,b</sup>, Marcelo Loureiro, M.D., Ph.D.<sup>a,b,c,\*</sup>

<sup>a</sup>CHU de Montpellier, Montpellier, France

<sup>b</sup>University Montpellier 1, Montpellier, France

<sup>c</sup>Universidade Positivo, Curitiba, Brazil

Received December 29, 2015; accepted February 14, 2016

# Material and methods

- Observational and multicenter cohort
- Study population: Patients operated on for nissen-SG in 2022 and 2023 (inclusion period) in the centers participating in the study and agreeing to participate in the study.
- Expert center with surgeons trained in the surgical technique

**Protocol declared and validated by the GNEDS (Groupe Nantais Ethique dans le domaine de la santé) AVIS 22-01-281**

# Material and methods

## *Inclusion criteria:*

- *Patient between the ages of 18 and 65 years*
- *Patient able to attend all scheduled visits*
- *Patient affiliated to the French social security system*
- *Patient eligible for sleeve gastrectomy after multidisciplinary evaluation according to HAS 2009 criteria (BMI  $\geq$  40 kgs/m<sup>2</sup> and/or BMI  $\geq$  35 kgs/m<sup>2</sup> with comorbidities)*

## *Non-inclusion criteria:*

- *Barrett's esophagus and stage III and IV esophagitis*
- *Pregnancy in progress*
- *Previous bariatric surgery*
- *History of reflux surgery- BMI > 50kg/m<sup>2</sup>*
- *No affiliation to the French social security system*
- *Minor protected by law*
- *Deprivation of liberty by judicial or administrative decision*
- *Participation in another clinical research program*

# Objectives

## Primary Objective:

- To study the postoperative morbidity at 30 days postoperatively of nissen sleeve gastrectomy

## Primary endpoint:

- Collection of complications at 30 days postoperatively (aphagia, gastric perforation, fistula...) with the classification according to Dindo-Clavien

## Secondary objectives:

- 1- To study the presence and evolution (improvement or not) of clinical GERD postoperatively of nissen sleeve gastrectomy at 1 month, 6 months and 1 year
- 2- To study the postoperative morbidity of nissen sleeve gastrectomy at 6 months and one year postoperatively
- 3- To compare the 30-day postoperative morbidity of nissen sleeve gastrectomy with sleeve gastrectomy



# Results

- **138 patients** with 122 women (88.4%) were included in the study
- Mean age :  $39.1 \pm 11.0$  years
- Mean BMI was  $41.6 \pm 4.1$  kg/m<sup>2</sup>
- The comorbidities were :
  - 17 (12.31%) diabetic patients including 3 on insulin (17.6%)
  - 29 hypertensive patients (21%)
  - 58 patients with sleep apnea (42%)
  - 65 patients with reflux (47.1%) including 58 on PPI (42%)
- Preoperatively: 27 patients (19.5%) had esophagitis and 29 patients (21%) hiatal hernia

# Results

**Intraoperatively** : 135 N-Sleeves were performed (one intraoperative resection of the fundoplicature for vascularization defect, one large left liver and one presence of a diverticulum at the level of the greater curvature)

The operating time was  $90.3 \pm 35.1$  min

The length of stay was  $2.2 \pm 1.3$  days

**The reintervention rate was 5.8 %**

**According to Clavien and Dindo, there were**

- 3 Grade 1 complications: 2 ischemia of the spleen and hematoma liver
- 9 Grade 3-4 complications: 1 fistula with 1 twist under fundoplicature, 1 staple line bleeding, 2 endoscopy valve dilatations
- 5 complications with gastric perforation ( 3.62 %)

**All the complication rate were 8.7%. Grade 3-4 : 6.5 %**

**Mortality was 0%.**

At one month postoperative, the BMI was  $37.9 \pm 6.0$  kg/m<sup>2</sup>. None patient had reflux and 9 patients had dysphagia (6,5%)

# Results of 2 literature reviews

**487 PATIENTS**  
**- 9.4% of complications**  
**(3.1% gastric perforation)**

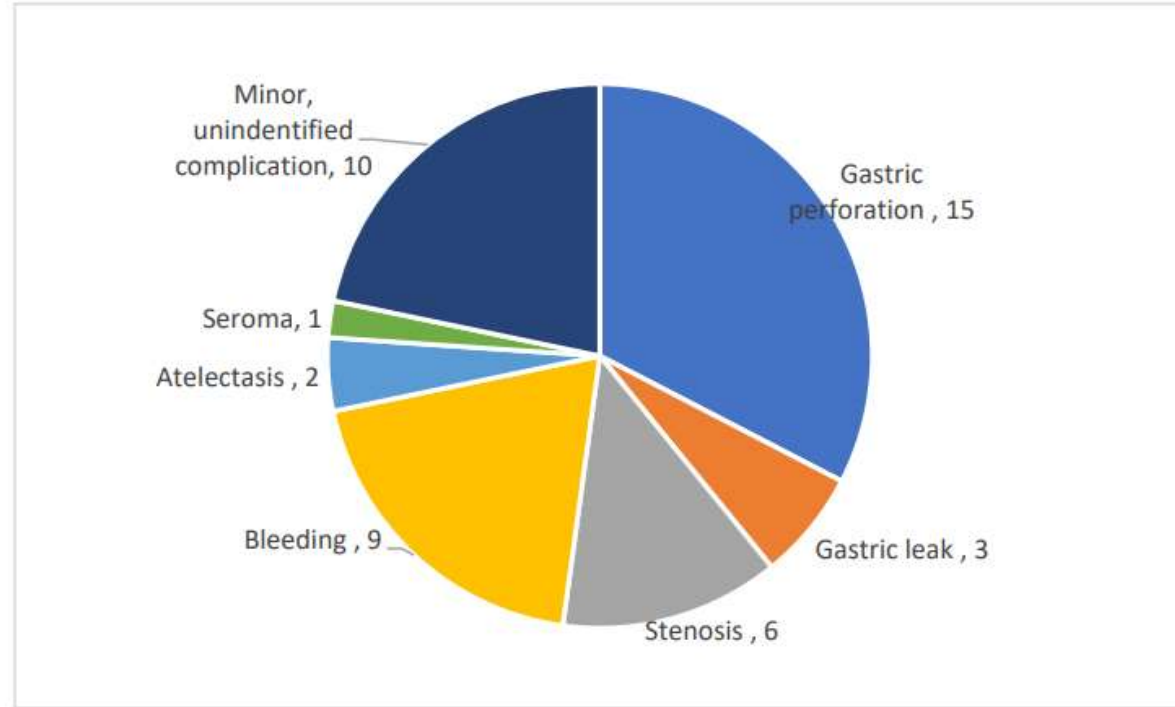


Figure 1. Distribution of identified complications.

# Results of 2 literature reviews

## Results

Six studies (485 patients) met the inclusion criteria. The age of the patient population ranged from 17 to 72 years old and 82% were females. All patients underwent sleeve-fundoplication. Rossetti, Collis-Nissen, and Nissen were the most commonly performed fundoplications. The estimated pooled prevalence of postoperative leak, gastric perforation, and overall complications were 1.0% (95% CI = 0.0–2.0%), 2.9% (95% CI = 0.0–8.3%), and 9.8% (95% CI = 6.7–13.4%), respectively. The pooled reoperation rate was 4.1% (95% CI = 1.3–10%). There was no mortality. At 12-month follow-up, the estimated pooled BMI and %EWL were 29.9 kg/m<sup>2</sup> (95% CI = 28.5–31.2) and 66.2% (95% CI = 59.3–71.1), respectively, while esophagitis, PPI consumption, and GERD rates were 8.0% (95% CI 3–21%), 7.8% (95% CI 5–13%), and 11% (95% CI 4–26%).

# Conclusion



- The results show a complication rate of 8.7% without mortality
- A learning curve is necessary to decrease the complication rate
- In view of the morbidity, this procedure should be reserved for the moment to expert centers. The long-term results, in particular on reflux and weight loss, are in progress

- Samuel Frey<sup>1</sup>, Marie de Montrichard<sup>1</sup>, Adel Abou mrad<sup>2</sup>, Laurent Arnalsteen<sup>3</sup>, Thibaut Coste<sup>4</sup>, Litavan Khamphommala<sup>5</sup>, Jean-Charles Vignal<sup>6</sup>, Geraud Tuyeras<sup>7</sup>, Fabien Stenard<sup>8</sup>, Thomas Gautier<sup>9</sup>, Maucour Christophe<sup>10</sup> Blanchard Claire<sup>1</sup>
- 1. Chirurgie cancérologique, digestive et endocrinienne. Centre hospitalier universitaire de Nantes, Nantes, France.
- 2. CHR ORLEANS, France
- 3. Hôpital la Louvière à LILLE, France
- 4. Polyclinique Ste Thérèse à SETE, France
- 5. Clinique St Grégoire à RENNES, France
- 6. Clinique Chirurgicale du Libournais à LIBOURNE, France
- 7. CHU Toulouse, France
- 8. Clinique des Cèdres Echirolles, Grenoble, France
- 9. Clinique St Jean à MONTPELLIER, France
- 10. Clinique st André lambres les douai, France





**CONGRES**  
**SOFFCO.MM**  
**NANTES**



**22-25 MAI**  
**2024**

LE GRAND CLIPANT  
CO-Présidents du Congrès

**Claire BLANCHARD**

CHU de Nantes

**Thomas AUGUSTE**

Hôpital Privé Océane, Vannes

**Adrien STERKERS**

Hôpital Privé St Grégoire